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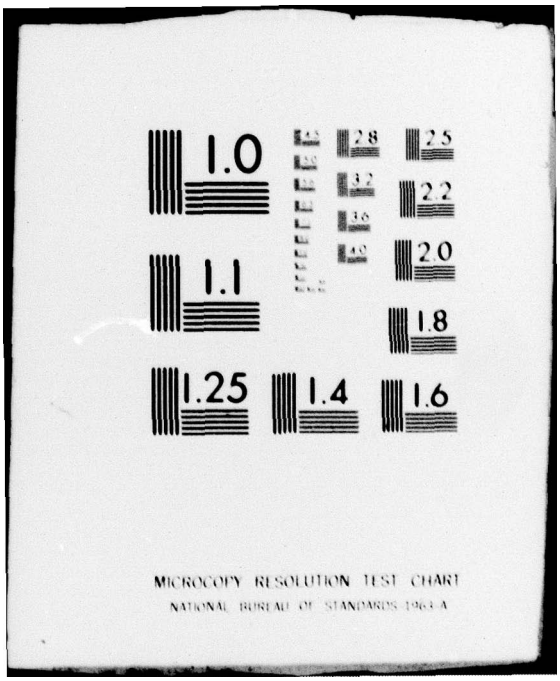
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(Selected Articles)

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THE SUCCESSFUL TEST FLIGHT OF A
POWER GLIDER

Liu Ying-Bing

Dispatch of Local Edition - The Amateur Glider School (Ye She Hua Xiang Da Xiao) of Si Chuan Province, Xi Bei Industrial College, Cheng Du Glider Plant, and the Shen Yang Glider Plant most recently had a successful test flight of an experimentally built power glider.

Gliders are a type of aircraft that have no power plant, they must rely upon an external power to obtain altitude. After securing support of its weight, it utilizes the power of the wind to execute its flight. This type of flight is called a glide. Normally when the glider takes off it utilizes either a rubber band catapult, winch towing, an airplane tow, or other method. At present in our country, the winch towing (method) is most widely used for take-off. 250-350 meters of altitude can be obtained; in the air a short flight pattern can be flown, and then a subsequent landing, with an actual flight time of approximately three minutes.

In order to actively develop the glider industry, comrades of the Amateur Glider School of Si Chuan Province, along with the Cheng Du and Shen Yang Glider Plants had already given consideration to exerting maximum effort to originating new training methods.

However, due to the disruptions and destruction caused by the "Gang of Four", their desires could not be achieved. The overthrow of the "Gang of Four", the liberation of the glider industry, and particularly the sincere concern of our brilliant leader Chairman Hua and of the Party Central Committee for Military Physical Education, caused them great rejoicing. Everyone's thoughts were emancipated and there was an increase in technical innovations in order to rapidly and efficiently get a greater quantity and quality of trained glider personnel from the provincial areas, and to fulfill requirements for developing the aviation industry. As a result of this, the construction of an experimental power glider became the theme of their victory.

To unlock the door to these problems required a solution of installing a good quality engine of light weight, and of large horsepower. The Xi Bei Industrial College has been conducting research for a long time on an engine suitable for use on a small aircraft, and, a year ago they started work on an experimental thirty-four house power engine. The comrades of the Glider School moved to the Xi (Bei) Industrial College, and together they researched the problems of a power for the glider. After much discussion, from theory they proved that a thirty-four horsepower engine could truly provide power for a glider; then Xi (Bei) Industrial College took it a step further and actually test built it. The workers of the glider plants made alterations on the glider based on the specifications of the engine. Due to the unification of three factors, scientific research, production, and training, in a very short time of less than nine months, the successful creation and test construction of a power glider that passed the test flight with excellent results was accomplished.

This power glider is the "Liberation 7 Model, made of fiberglass. In the center portion of the fuselage, past the trailing edge of the wing, there is a small dimensional, light weight

(17 Kilogram), thirty-four horsepower piston type engine. This type of powered, two-place training glider does not require external power for take-off. The total distance required for take-off is only slightly more than 100 meters. It could be suitable for training on a relatively small airstrip. The operation of the controls for it's take-off and that of an airplane's take-off are very similar. At the time of the test flight, this aircraft was loaded with 5 kilograms of regular gas, it ascended to over 1,500 meters in altitude, actual flight time was over 35 minutes.

With the successful test flight of the power glider in our country, henceforth, this provides even greater opportunities for training of our students in navigational take-offs and landings. The training subjects could also include, under conditions when not being towed in ascent, increased simple instrument flight navigation, stalling, formation flights, and short distance, inter-airfield flights, etc. The quality of training cannot help but be elevated.

The safety characteristics for this type of power glider are good, it is possible to turn off the engine in the air, its performance after the engine is shutdown is identical to that of an ordinary glider. It is a safe glide all the way to touch-down. Handling and safety characteristics are also suitable for training requirements.

In order for the successful test construction of the power glider to create new training opportunities it may advance the development of our nation's glider industry by using the glider industry to develop the aviation industry in order to make new contributions to industrial production and the realization of the four modernizations.

The Test Flight of an Impact Type, Parachute Winged, Shock Reduced Aircraft Prototype

Sun Jing Qiao

Dispatch of Local Edition-In order to research and develop a radio ~~manipulated~~ controlled, shock reduced, impact type, parachute winged prototype aircraft, there was a unification of the Xiung Guang Machine Factory's Research Center in Nan Jing and the Aviation Institute in Bei Jing. This year during the first part of March an experimental flight was ~~performed~~ carried out.

The special characteristics of a model parachute plane of this nature are that its construction is simple, the ~~navigation-al~~ flight stability is sound, the pliable nature of the aircraft wings permits dismantlement and assembly, thus it is very portable.

This 78-01 prototype parachute aircraft is equipped with a 24 horsepower piston ~~driven generator~~ type engine, it's ~~navigational~~ take-off weight is 7 kilograms, the parachute surface area is 1.75 sq. meters, it's ~~navigational~~ flight speed is 40 kilometers per hour, approximate. Use of radio signals control the ~~navigational~~ flight direction, ascent in flight, descent, and the ~~generator~~ engine throttle, thus enabling the parachute aircraft to have a smooth and level flight, banking movements, stalls and dives, and a minimum turning radius of approximately 30 meters. It is possible to manually launch it into flight, it is also possible for the glider to take off from the ground. The distance (required) for ~~the~~ glider take off is 15 meters. For landing techniques it is possible to have a glide landing or a power landing.

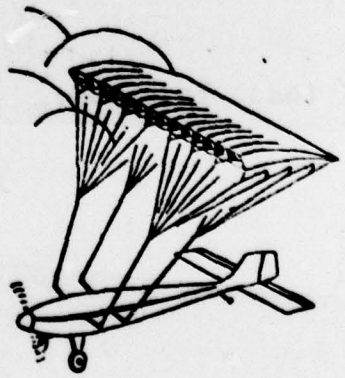
The impact type parachute aircraft is constructed in a manner to reduce shock. The wing surfaces are made of a coated layer of nylon cloth to make them non-permeable, for both the upper and lower wing. Using a permeable nylon cloth restricts the wing-rib that connects the upper and lower wing section. Moreover, it maintains a condition of constant drag on the wing section. The forward portion has an opening similar to the ordinary airplane wings whose forward edge is cut out; the rear edge is

sealed. At the time when there is a definite forward speed, the air current fills the open space between the ribs, enabling the upper and lower surface to bulge out and thus form the aircraft wings. The area between the wings and the fuselage is connected by parachute rope (cord).

Special points for this type of parachute wing aircraft are that it possesses extremely good pitch stability, horizontal stability, as well as low navigational speeds, hence, it is comparatively easier to have level flight at excessively low altitudes.

The 78-01 prototype parachute winged aircraft has provided 50 flights (takeoffs and landings), moreover, it has served as a flight demonstrator for other relevant departments. Special characteristics of it's flight navigation are simple construction, causing other related departments to take notice. It is predicted that after this has become large scale, it will be possible to achieve highly diversified application.

At present the impact type, parachute winged prototype aircraft will continue to carry out experiments in maximum flight load along with wing surface ~~manipulation~~ control methods, and other areas of interest.



A Comparison of the First Prototype Satellites of Various Countries

Aeronautic Activity of 20 Years to 3 (TN: I.E.)

All of the first ~~aeronautic machines~~ spacecraft launched by each country are satellites that orbit the earth. The chart below will point out the weight and dimensional characteristics for these satellites.

Item

1. Nation
2. Soviet Union
3. United States
4. England
5. Canada
6. Italy
7. France
8. Australia
9. ~~Outlaw~~ European Union
10. West Germany
11. Japan
12. China
13. Holland
14. Spain
15. India
16. Indonesia
17. International Code Designation
18. Date of Launch
19. Weight (kilograms)
20. Description
21. spherical
22. cylindrical body
23. cylindrical body
24. disc

1	国别	国际统一编号 17	发射日期 18
2	苏联	1957 α2	1957.10.4
3	美国	1958 α1	1958.2.1
4	英国	1962 01	1962.4.26
5	加拿大	1962 βα1	1962.9.29
6	意大利	1964 84A	1964.12.15
7	法国	1965 96A	1965.11.26
8	澳大利亚	1967 118A	1967.11.29
9	欧联	1968 41A	1968.5.17
10	西德	1969 97A	1969.11.8
11	日本	1970 11A	1970.2.11
12	中国	1970 34A	1970.4.24
13	荷兰	1974 70A	1974.8.30
14	西班牙	1974 89C	1974.11.15
15	印度	1975 33A	1975.4.19
16	印度尼西亚	1976 66A	1976.7.8

重量(公斤) 19	形状 20	尺寸(米) 33
83.6	球体 21	34 直径 0.58
8.3	圆柱体 22	35 高 0.75, 直径 0.153
60	圆柱体 23	36 高 0.56, 直径 0.58
144.7	扁球 24	37 高 0.81, 直径 1.06
115	两个同心球 25	38 直径 0.66
41.7	26 圆柱体中段, 锥体	39 高 0.53, 直径 0.55
71.2	锥体 27	40 高 1.52, 底径 0.62
80	圆柱体 28	41 高 0.85, 直径 0.76
72	圆柱体加锥顶 29	42 长 1.226, 直径 0.762
38	锥体 30	43 高 1.00, 底径 0.48
173		
125		44 高 1.23, 宽 0.61
24.5	十二面体 31	45 高 0.41, 宽 0.445
365		46 高 1.19, 直径 1.59
575	圆柱体 32	47 高 3.7, 直径 1.9

48 (凌福根)

25. 2 united spheres
26. cylindrical mid-section, ~~awl-like~~ conical extremity
27. ~~awl-like~~ conical
28. cylindrical
29. cylindrical with ~~an awl-like~~ conical tip
30. ~~awl-like~~ conical
31. 20 sided body
32. cylindrical
33. Dimensions (meters)
34. Diameter 0.58
35. Height 0.75, Diameter 0.153
36. Height 0.56, Diameter 0.58
37. Height 0.81, Diameter 1.06
38. Diameter 0.66
39. Height 0.53, Diameter 0.55
40. Height 1.52, Base Diameter 0.62
41. Height 0.85, Diameter 0.76
42. Length 1.226, Diameter 0.762
43. Height 1.00, Base Diameter 0.48
44. Height 1.23, Width 0.61
45. Height 0.41, Width 0.445
46. Height 1.19, Diameter 1.59
47. Height 3.7, Diameter 1.9
48. (Ling Fu Gen)

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